

C1 of commercial CMOS devices, total dose radiation failures arise in the isolation region 24 rather than in the gate region. --

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Please replace the paragraph beginning at page 5, line 13, with the following rewritten paragraph:

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C2 -- Without wishing to be bound by theory, the inventors propose that the reason this method works is that the negative bias raises the threshold voltage in the field (isolation) region and therefore tends to shut off radiation-induced parasitic leakage currents. The field oxide region behaves qualitatively like a second transistor in parallel to the intended transistor and has its own effective threshold voltage that is more strongly affected by the back bias. Larger negative biases will make the devices harder against total dose radiation. However, higher biases will also tend to shift the gate threshold voltage for the FETs in the CMOS device. To compensate for this, the device will typically be engineered so that the threshold voltage is within a preferred operational range (typically between about 0.4 V and about 0.6 V for a device operating at 3 V) when this back bias is applied. However, the method will work for other conditions. For example, it is especially effective with even lower thresholds. --

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